

What is claimed is:

1. A nut member for a coaxial cable connector, the nut member comprising a nut body having a central longitudinal axis and a central hole, the nut body comprising:

a driving head portion having a rear end, a front end, an outer side surface, and an inner side surface extending from the rear end to the front end, the inner side surface defining at least part of the central hole, the outer side surface comprising a plurality of oppositely disposed flat sides disposed substantially parallel with the central longitudinal axis, wherein each of the flat sides lies in a respective plane disposed at least a minimum radial distance R_F from the central longitudinal axis, wherein the planes of respective adjacent flat sides intersect along respective apex lines disposed at a radial distance R_X from the central longitudinal axis, wherein adjacent flat sides intersect along corner edges disposed at a radial distance R_C from the central longitudinal axis, wherein $(R_C - R_F) / (R_X - R_F) > 0.75$; and

an annular portion having a rear end disposed at the front end of the driving head portion, a front end, an outer side surface having a maximum radius less than R_F such that a minimum radial offset is provided between the outer side surface of the driving head portion and the outer side surface of the annular portion, and an inner side surface extending from the rear end of the annular portion to the front end of the annular portion, the inner side surface of the annular portion defining at least part of the central hole;

wherein at least one of the inner side surface of the driving head portion and the inner side surface of the annular portion has threads;

wherein at least two of the flat sides are grooved with at least one longitudinal groove, each of the grooves having a respective maximum width, w_i , and a respective maximum depth, wherein each grooved flat side has a respective total groove width $\sum w_i$, wherein the respective maximum depth of each of the grooves is not greater than the radial offset between the outer side surfaces of the driving head portion and the annular portion.

2. The nut member of claim 1 wherein none of the grooves has a maximum depth greater than the minimum radial offset between the outer side surfaces of the driving head portion and the annular portion.

3. The nut member of claim 1 wherein the grooved flat sides have a longitudinal groove disposed between adjacent corner edges and closer to the corner edge in the direction of the threads.

4. The nut member of claim 1 wherein the grooved flat sides have a longitudinal groove disposed between adjacent corner edges and closer to the corner edge upon which torque is applied when tightening the nut.

5. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F > 0.05$ for each of the grooved flat sides.

6. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F > 0.10$ for each of the grooved flat sides.
7. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F > 0.15$ for each of the grooved flat sides.
8. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F$ is between 0.05 and 1.0 for each of the grooved flat sides.
9. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F$ is between 0.10 and 0.9 for each of the grooved flat sides.
10. The nut member of claim 1 wherein each grooved flat side has a transverse width W_F and a total groove width, and the ratio $\sum w_i / W_F$ is between 0.15 and 0.8 for each of the grooved flat sides.
11. The nut member of claim 1 wherein none of the grooves has a maximum depth greater than the difference between the minimum radial distance R_F from the central longitudinal axis and the maximum radius of the outer side surface of the annular portion.

12. The nut member of claim 1 wherein the flats have a transverse width W_F , and wherein all of the grooves are spaced away from the corner edges by at least $0.10 W_F$.
13. The nut member of claim 1 wherein the flats have a transverse width W_F , and wherein all of the grooves are spaced away from the corner edges by at least $0.14 W_F$.
14. The nut member of claim 1 wherein a majority of the flat sides are grooved with at least one longitudinal groove.
15. The nut member of claim 1 wherein all of the flat sides are grooved with at least one longitudinal groove.
16. The nut member of claim 1 wherein all of the flat sides are grooved with at least two longitudinal grooves.
17. The nut member of claim 1 wherein none of the longitudinal grooves extend onto the outer side surface of the annular portion.
18. The nut member of claim 1 wherein the outer side surface of the annular portion has no longitudinal grooves.

19. The nut member of claim 1 wherein none of the grooves extend to the inner side surface of the driving head portion.
20. The nut member of claim 1 wherein the central hole has varying diameter.
21. The nut member of claim 1 wherein the inner side surface of the driving head portion comprises a flange the central hole.
22. The nut member of claim 1 wherein the grooves extend from the rear end to the front end of the driving head portion.
23. The nut member of claim 1 wherein the grooves extend continuously from the rear end to the front end of the driving head portion.
24. A coaxial cable connector comprising the nut member of claim 1.
25. A nut member for a coaxial cable connector, the nut member comprising a nut body having a central longitudinal axis and a central hole, the nut body comprising:
- a driving head portion having a rear end, a front end, an outer side surface, and an inner side surface extending from the rear end to the front end, the inner side surface defining at least part of the central hole, the outer side surface comprising a plurality of oppositely disposed flat sides disposed substantially parallel with the central longitudinal axis, wherein each of the

flat sides lies in a respective plane disposed at least a minimum radial distance R_F from the central longitudinal axis, wherein the planes of respective adjacent flat sides intersect along respective apex lines disposed at a radial distance R_X from the central longitudinal axis, wherein adjacent flat sides intersect along corner edges disposed at a radial distance R_C from the central longitudinal axis, wherein $(R_C - R_F) / (R_X - R_F) > 0.75$; and

an annular portion having a rear end disposed at the front end of the driving head portion, a front end, an outer side surface having a maximum radius less than R_F such that a minimum radial offset is provided between the outer side surface of the driving head portion and the outer side surface of the annular portion, and an inner side surface extending from the rear end of the annular portion to the front end of the annular portion, the inner side surface of the annular portion defining at least part of the central hole;

wherein at least one of the inner side surface of the driving head portion and the inner side surface of the annular portion has threads;

wherein each of the flat sides is grooved with at least one longitudinal groove, each of the grooves having a respective maximum width, w_i , and a respective maximum depth, wherein each grooved flat side has a respective total groove width $\sum w_i$, wherein the respective maximum depth of each of the grooves is not greater than the radial offset between the outer side surfaces of the driving head portion and the annular portion.

26. The nut member of claim 25 wherein each of the flat sides is grooved with at least two longitudinal grooves.

27. A connector for coupling an end of a coaxial cable to a threaded terminal, the connector comprising:

a cylindrical body member having a rear end adapted to receive the end of the coaxial cable, a front end, and a central hole extending through the cylindrical body from the rear end to the front end;

a nut member having a central hole extending through the nut member, wherein the nut member engages the front end of the cylindrical body member; and

a post member comprising a post flange and a post shank, the post member disposed at least partially within the central hole of the cylindrical body member at the front end of the cylindrical body member and disposed at least partially within the central hole of the nut member, wherein the post member and the cylindrical body member are movable with respect to each other in a cable-insertion position, wherein the post member and the cylindrical body member are adapted to sandwich a part of the coaxial cable in a cable-installed position;

wherein the nut member comprises a nut body having a central longitudinal axis, the nut body comprising:

a driving head portion having a rear end, a front end, an outer side surface, and an inner side surface extending from the rear end to the front end, the inner side surface defining at least part of the central hole of the nut member, the inner side surface comprising an annular collar for rotatably engaging the front end of the cylindrical body member, the outer side surface comprising a plurality of oppositely disposed flat sides disposed substantially parallel with the central longitudinal axis, wherein each of the flat sides lies in a respective plane disposed at least a minimum radial distance R_F from the central longitudinal axis, wherein the planes of respective

adjacent flat sides intersect along respective apex lines disposed at a radial distance R_X from the central longitudinal axis, wherein adjacent flat sides intersect along corner edges disposed at a radial distance R_C from the central longitudinal axis, wherein $(R_C - R_F)/(R_X - R_F) > 0.75$; and

an annular portion having a rear end disposed at the front end of the driving head portion, a front end, an outer side surface having a maximum radius less than R_F such that a minimum radial offset is provided between the outer side surface of the driving head portion and the outer side surface of the annular portion, and an inner side surface extending from the rear end of the annular portion to the front end of the annular portion, the inner side surface of the annular portion defining at least part of the central hole;

wherein at least one of the inner side surface of the driving head portion and the inner side surface of the annular portion has threads adapted to threadably engage the threaded terminal;

wherein at least two of the flat sides are grooved with at least one longitudinal groove, each of the grooves having a respective maximum width, w_i , and a respective maximum depth, wherein each grooved flat side has a respective total groove width $\sum w_i$, wherein the respective maximum depth of each of the grooves is not greater than the radial offset between the outer side surfaces of the driving head portion and the annular portion.

28. In combination the connector of claim 27 and a wrench adapted to engage the driving head portion of the nut member of the connector.

29. In combination the connector of claim 27 and a wrench having a fastener embracing surface generally complementary to at least a portion of the outer side surface of the driving head portion of the nut member of the connector.

30. The combination of claim 29 wherein the wrench is open-ended.

31. In combination the connector of claim 27 and a coaxial cable, wherein the connector is attached to an end of the cable.